

WHAT IS CLAIMED IS:

1. A method of making a touch fastener, the method comprising:

coextruding, side-by-side, a plurality of lanes of polymeric material to form a sheet-form base, the sheet-form base including a lane of a first polymeric material disposed between two lanes of a second polymeric material, different from the first polymeric material;

10 molding a plurality of discrete fastener element stems extending outwardly from and integral with the sheet-form base in each of the two lanes of the second polymeric material; and

forming engageable heads on the stems.

15 2. The method of claim 1 wherein the heads are formed by molding the heads as their respective stems are molded.

3. The method of claim 1 wherein the heads are formed by deforming distal regions of the molded stems.

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4. The method of claim 1 wherein the stems are molded by:

introducing the coextruded lanes of resin into a gap defined adjacent a rotating mold roll defining discrete mold cavities extending inwardly from a peripheral mold surface, such 25 that the resin is forced into the cavities to mold the stems;

cooling the resin to solidify the stems and sheet-form base; and then

stripping the molded stems from their cavities.

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5. The method of claim 4 wherein the cavities are shaped to mold fastener elements having such stems and engageable heads.

6. The method of claim 4, further comprising introducing a pre-formed sheet material to the
5 gap with the coextruded lanes of resin, such that the sheet material is bonded to the resin by heat and pressure in the gap.

7. The method of claim 6 wherein the sheet material is disposed on a side of the resin opposite the mold roll, so as to become a backing of the touch fastener.

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8. The method of claim 7 wherein the sheet material includes a layer of polymeric resin having properties selected to cause the sheet material to maintain dimensional stability as a layer during molding of the stems.

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9. The method of claim 1 further comprising molding discrete fastener element stems extending outwardly from and integrally with the sheet-form base in the lane of the first polymeric material.

10. The method of claim 9 further comprising forming engageable heads on the stems.

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11. The method of claim 1 further comprising bonding a polymeric layer of material to the sheet-form base, opposite the fastener element stems.

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12. The method of claim 1 wherein the first polymeric material comprises an elastomer.
13. The method of claim 12 wherein the elastomer comprises a polypropylene-based thermoplastic elastomer vulcanizate.

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14. The method of claim 1 wherein the sheet-form base includes more than three lanes, and the method further includes arranging the lanes so that lanes of the first polymeric material alternate with lanes of the second polymeric material.

15. The method of claim 1 wherein the sheet-form base includes at least two lanes of the first polymeric material, with one lane of the second polymeric material disposed between the two lanes of the first polymeric material.

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16. The method of claim 1 further comprising stretching the fastener in a direction in which the lanes are coextruded.

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17. The method of claim 16 wherein the stretching is performed with the application of heat.

18. The method of claim 1 further comprising stretching the sheet-form fastener in a direction perpendicular to the lanes.

19. The method of claim 18 wherein the stretching is performed with the application of heat.

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20. The method of claim 1 further comprising introducing a third material disposed between lanes of the first and second polymeric materials to bond them.

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21. The method of claim 1 further comprising bonding a fiber on the lanes of the first polymeric material.

22. The method of claim 1 wherein lanes of the first polymeric material are wider than lanes of the second polymeric material.

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23. A touch fastener comprising:

a sheet-form base having a plurality of lanes of polymeric material including a lane of a first polymeric material disposed between two lanes of a second polymeric material, the second polymeric material different from the first polymeric material; and

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each of the lanes of the second polymeric material having a plurality of discrete fastener elements comprising stems integrally molded with and extending outwardly from the sheet-form base.

5 24. The touch fastener of claim 23 further comprising having fastener elements extending outwardly and integrally with the sheet-form base in the lane of the first polymeric material.

25. The touch fastener of claim 23 wherein the first polymeric material comprises an elastomer.

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26. The touch fastener of claim 25 wherein the elastomer comprises a polypropylene-based thermoplastic elastomer vulcanizate.

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27. The touch fastener of claim 23 wherein the sheet-form base includes more than three lanes arranged so that the lanes of the first polymeric material alternate with lanes of the second polymeric material.

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28. The touch fastener of claim 23 wherein the sheet-form base includes at least two lanes of the first polymeric material, with one lane of the second polymeric material disposed between the two lanes of the first polymeric material.

29. The touch fastener of claim 23 further comprising a polymeric layer bonded to the sheet-form base on the side opposite the molded fastener elements.

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30. A personal care absorbent product comprising the touch fastener of claim 23.

31. A touch fastener comprising:

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a plurality of lanes of polymeric material to form a sheet-form base, the sheet-form base including a lane of a first polymeric material and a lane of a second polymeric material, the second polymeric material comprises a foam; and

extending outwardly from and integral with the sheet-form base in lanes of the first polymeric material is a plurality of discrete fastener elements comprising stems.

5 32. The touch fastener of claim 31 further comprising having fastener elements extending outwardly and integrally with the sheet-form base in the lane of the second polymeric material.

10 33. The touch fastener of claim 31 wherein the second polymeric material comprises a foamed thermoplastic.

34. The touch fastener of claim 33 wherein the foamed thermoplastic comprises an elastomer.

15 35. The touch fastener of claim 31 wherein the second polymeric material comprises a foamed thermoset.

36. The touch fastener of claim 31 wherein the sheet-form base includes more than two lanes.

20 37. The touch fastener of claim 36 wherein the lanes of the first and second polymeric material alternate.

38. A personal care absorbent product comprising the touch fastener of claim 31.

25 39. A method of making a touch fastener, the method comprising:
 coextruding, side-by-side, a plurality of lanes of polymeric material to form a sheet-form base, the sheet-form base including a lane of a first polymeric material and a lane of a second polymeric material, the second polymeric material comprising a foam;

molding a plurality of discrete fastener element stems extending outwardly from and integral with the sheet-form base in lanes of the first polymeric material; and

forming engageable heads on the stems.

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40. The method of claim 39 further comprising molding discrete fastener element stems extending outwardly from and integrally with the sheet-form base in the lane of the second polymeric material.

10 41. The method of claim 40 further comprising forming engageable heads on the stems.

42. The method of claim 39 further comprising coextruding a polymeric layer during the coextruding of the side-by-side polymeric lanes wherein the polymeric layer is disposed on the side opposite the fastener element stems.

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43. The method of claim 39 further comprising introducing a polymeric layer as pre-form during the coextruding of the side-by-side polymeric lanes wherein the polymeric layer is disposed on the side opposite the fastener element stems.

20 44. The method of claim 39 wherein the foam is formed by utilizing a chemical foaming agent.

45. The method of claim 39 wherein the foam is formed by injecting gas into the second lane.

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46. The method of claim 39 wherein the foam is a thermoset.

47. A method of making a touch fastener, the method comprising:

bonding a plurality of discrete side-by-side lanes of polymeric material together to form a sheet-form base, the sheet-form base including a lane of a first polymeric material and a lane of a second polymeric material, the second polymeric material comprising a foam;

molding a plurality of discrete fastener element stems extending outwardly from and integral with the sheet-form base in lanes of the first polymeric material; and

5 forming engageable heads on the stems.

48. A touch fastener comprising:

a plurality of lanes and an adjoining layer of polymeric material to form a sheet-form
10 base, the adjoining layer is below and integral with the plurality of lanes, the sheet-form base includes a lane of a first polymeric material disposed between two lanes of a second polymeric material, the second polymeric material different from the first polymeric material; and

15 extending outwardly from and integral with the sheet-form base, opposite the adjoining layer, in each of the two lanes of the second polymeric material is a plurality of fastener elements.

49. A personal care absorbent product comprising the touch fastener of claim 48.

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50. A method of making a touch fastener, the method comprising:

25 forming a composite polymeric sheet from at least two different polymeric materials forming corresponding portions of the sheet and defining a boundary therebetween;

forming a plurality of discrete fastener elements extending outwardly from at least one exposed surface of the composite sheet;

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stretching the formed sheet sufficiently to cause one of the portions to permanently deform to a greater extent than the other of the portions; and

reducing stretch of the sheet to allow differences in stretch response between the
5 two portions to locally distort a shape of the sheet.

51. The method of claim 50 wherein one of the polymeric materials comprises an elastomer.

52. The method of claim 51 wherein the elastomer comprises a polypropylene-based
10 thermoplastic elastomer vulcanizate.

53. The method of claim 50 wherein the two different polymeric materials are coextruded, side-by-side, forming a plurality of lanes, including a lane of a first polymeric material disposed between two lanes of a second polymeric material.

15 54. The method of claim 53 further comprising introducing a polymeric layer as pre-form during the coextruding of the side-by-side polymeric lanes wherein polymeric layer is disposed on the side opposite the fastener elements.

20 55. The method of claim 53 further comprising bonding a polymeric layer of material to a sheet-form base, opposite the fastener element stems.

56. The method of claim 50 wherein the forming of the composite polymeric sheet, the forming of the plurality of discrete fastener elements and the stretching are performed
25 continuously.

57. The method of claim 50 wherein the stretching is performed in a machine direction.

58. The method of claim 50 wherein the stretching is performed in a cross-machine
30 direction.

59. A method of making a touch fastener, the method comprising:

coextruding, side-by-side, a plurality of lanes of at least two different polymeric materials, forming a contiguous polymeric sheet;

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forming a plurality of discrete fastener elements extending outwardly from at least one portion of the sheet;

10 forming an adjoining layer of polymeric material and bonding the adjoining layer to the formed polymeric sheet on a side opposite the fastener elements, forming a composite; and then

stretching the formed composite sufficiently in a lateral direction to cause at least one lane of the polymeric sheet to separate from an adjacent lane.

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60. The method of claim 59 wherein the coextruding, forming the plurality of discrete fastener elements, forming the adjoining layer and stretching is performed continuously.

20 61. The method of claim 59 wherein the stretching is performed under the application of heat.

62. The method of claim 59 wherein at least one side of the adjoining layer is adhesive coated.

25 63. A touch fastener comprising:

an undulating composite polymeric sheet with local peaks and troughs, the composite polymeric sheet comprising at least two different polymeric materials featuring different degrees of stress, the polymeric materials defining different portions of the sheet and defining 30 a boundary therebetween; and

extending outwardly from at least one surface of the composite a plurality of molded elements.

64. The touch fastener of claim 63, further comprising engageable heads on the stems.
65. The touch fastener of claim 63 wherein the molded elements extend from both peaks and troughs in the sheet.

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66. The touch fastener of claim 63 wherein the molded elements extend from only troughs in the sheet.

67. A personal care absorbent product comprising the touch fastener of claim 63.

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